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THE GENUS *CHALCOMYIA* (DIPTERA: SYRPHIDAE).

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THE genus *Chalcomyia* Williston (Bull. Brooklyn Ent. Soc., vol. 7, p. 133, 1885) appears to be peculiar to North America. It was erected for *Myiolepta aerea* Loew and defined principally on the basis of: antenna short, with dorsal arista; marginal cell open; anterior (discal) cross-vein distinctly before the middle of the discal cell, usually rectangular; face black without tubercle; scutellum unusually large, nearly square; males dichoptic. The two last characters are peculiar to *Chalcomyia*, as hitherto known, and easily suffice to define the genus.

A second species, *cyanea*, was added by Smith, although the scutellum in this species is not as well developed as in the genotype and the face of the male has a slight tubercle. Two additional species are now at hand which are still more aberrant. The one, received from Mr. C. W. Johnson, is represented only by the female and hence one of the generic characters found in the male sex, *i.e.*, dichoptic eyes, is not available. The scutellum is noticeably broader than long and the discal cross-vein is nearly at the middle of the discal cell. The species is strikingly like the *Xylotae* and one is at first inclined to locate it in the *Xylotinae*. However, the discal cross-vein is rectangular as in the *Chilosinae* and the abdomen is broadly oval and flat as in *Chalcomyia aerea* female (rather elongate and parallel-sided in *Xylota*); the head is distinctly triangular and has a well-developed antennal prominence as in *Chalcomyia aerea* and probably the male will be found to have dichoptic eyes (holoptic in *Xylota*).

The fourth species, both sexes, was standing in Dr. Aldrich's collection labeled "new species." The eyes of the male approach each other very closely; face concave and without tubercle in both sexes; scutellum distinctly longer than broad; metasternum pilose; body much more slender than in other species; petiole beyond first posterior cell nearly as long as discal cross-vein. The inclusion of these species in *Chalcomyia* necessitates a reconsideration of the genus.

The *Chilosinae* and *Xylotinae* are intergradant and their separation is more or less arbitrarily fixed on the basis of certain characters. A number of genera, three of which concern us here, *Myiolepta*, *Chalcomyia* and *Cynorhinella*, occupy a rather intermediate position between the two subfamilies. The latter two

genera especially are composed of a small number of aberrant species (*Chalcomyia aerea* Loew, *cyanea* Smith, *anomala*, new species, and *depressa*, new species, and *Cynorhinella canadensis* Curran, *bella* Williston and *longinasus* Shannon) which do not have a close uniformity among themselves and at the same time act as intermediates between allied genera of both subfamilies. According to our present understanding of the Chilosiinae, this group now being considered, Myiolepta, etc., comes within its limits, chiefly due to the position of the discal cross-vein, *i.e.*, discal cross-vein rectangular and joining the discal cell before its middle (usually oblique and joining the discal cell at or beyond its middle in Xylotinae).

Both *Chalcomyia* and *Cynorhinella* were established on a single species each, which was of a rather extreme type, their peculiar characters forming the basis of the descriptions. The new species which have been added to them are not all as extreme in these peculiar characteristics, hence the old characters do not suffice to key them and it is necessary to redefine them.

Myiolepta, *sensu stricto*, *Chalcomyia* and *Cynorhinella* are separated from other Chilosiina genera by: face black with or without tubercle either in the male or in both sexes; body pile not developed scale-like; petiole beyond first posterior cell usually much shorter than length of discal cross-vein.

- A¹. Head not distinctly triangular, usually broadly elliptical; face tuberculate in the male; third and fourth veins joining practically at wing margin; second vein turned abruptly upward at tip. *Myiolepta*.
- A². Head distinctly triangular.
- B¹. Face not produced downward; tuberculate (as far as known) only in male of *cyanea*; a distinct petiole beyond first posterior cell, rarely as long as discal cross-vein; second vein distinctly curved at tip. *Chalcomyia*.
- B². Face much produced downward; tuberculate in both sexes (as far as known); third and fourth veins joining practically at wing margin; second vein straight or slightly curved at tip. *Cynorhinella*.

The immature stages of *Chalcomyia aerea* are passed in rotting logs. The other species probably have similar habits.

Table of Species of Chalcomyia.

- A¹. Greenish bronze, clothed with short yellow pile; tibiae and tarsi largely yellow; scutellum subquadrate; *male*: face without tubercle; eyes well separated, sides of front parallel on upper half.
- B¹. Discal cross-vein joining discal cell much before its middle; posterior cross-vein much less than the section of fourth vein above it.
- C¹. Thorax flattened above; abdomen constricted basally; hind femora of male and female much swollen; *male*: face without tubercle; eyes distinctly converging and rather closely approximated. *depressa*, new species.
- C². Thorax not flattened; abdomen broadened basally; hind femora very slightly swollen; *male*: face with slight tubercle; eyes slightly converging, well separated. *cyanea* Smith.
- B². Discal cross-vein joining discal cell nearly at its middle; posterior cross-vein subequal to section of fourth vein above it. *anomala*, new species.

Chalcomyia aerea Loew.

This species was described by Loew (Cent., no. 10, p. 53) from Illinois. It has been reported from Nebraska, Ohio, Massachusetts, New York, Pennsylvania, Maryland, Virginia and North Carolina.

Chalcomyia cyanea Smith.

Chalcomyia cyaneus Smith, Proc. Ent. Soc. Washington, vol. 14, p. 119, 1912.
Chalcomyia calcitrans Curran, Can. Ent., vol. 53, p. 260, 1921.

Only males of this species are known. Originally described from Franconia, New Hampshire, and later recorded (as *calcitrans* Curran) from Orillia and McDiarmid, Ontario.

Chalcomyia anomala, new species.

Female.—Medium-sized, black species, 9 mm. Head, frontal aspect, triangular; front at vertex as broad as length of antenna; widening downward, and at base much broader than length of arista; antenna and arista blackish; face deeply concave in profile; antennal base projecting beyond epistoma; body pile short, pale, inconspicuous; scutellum well developed, its margin rimmed; abdomen broadly oval, flat; wings smoky, darkened basally; discal cross-vein slightly clouded; discal cross-vein joining discal cell just before its middle, nearly straight and perpendicular; posterior cross-vein subequal to section of fourth vein above it; squama white, plumula brownish; halteres orange.

Holotype, female, Clementon, New Jersey, May 14 (C. W. Johnson, in his collection). I wish to thank Mr. Johnson for his kind favor in lending me this specimen for study.

Chalcomyia depressa, new species.

Description.—This species may be easily recognized by its entire bluish-black color of body and black legs; small and brownish antennae; short and yellowish arista; flattened thoracic dorsum; abdomen somewhat constricted basally, broader behind; second and third tergites opaque posteriorly; smoky wings; tip of first posterior cell not acute, the petiole beyond nearly as long as discal cross-vein; pile very inconspicuous. Other characters are in the key.

Type locality.—Craig Mountains, Idaho.

Type.—Cat. No. 27,835, U. S. National Museum. Holotype, male, Craig Mountains, Idaho (J. M. Aldrich). Allotype, female, Mt. Moscow, Idaho, July 1, 1909 (J. M. Aldrich).